

4. Diane

Program Name: Diane.java

Input File: diane.dat

Diane simply wants to add two values that may be integers, proper fractions, or mixed numbers.

Write a program to take two values and find the sum in simplified format.

Input: The first line consists of a number N, representing the number of lines of data to follow. N will be in the range of [1,50]. The next N lines of data consist of two numeric values A and B, separated by the lower-case word "and". One space separates value A from "and". Another space separates "and" from value B.

If A or B are proper fractions, the format will be numerator, slash ("/"), then denominator with no spaces.

If A or B are mixed numbers, the format will be integer followed by one space then the proper fraction as mentioned above.

If a proper fraction is negative, the negative will be in the numerator. If a mixed number is negative, the negative will be attached to the integer.

All values will be in the range [-1000,1000].

Output: Each output will be either an integer, a fraction, or a mixed number representing the sum of the two values.

If the sum is an integer, it will be written in integer form.

If the sum is a proper fraction, it shall be written in lowest terms in numerator/denominator form with no spaces separating the numerator from the "/", and no spaces separating the "/" from the denominator.

Output should be simplified and in lowest terms.

Sample input:

```
7
12 and 20
30 and 20
22 and 27
1/7 and 2/5
0 and -21
5 1/3 and 7 5/7
10 1/4 and -11 2/3
```

Sample output:

```
32
50
49
19/35
-21
13 1/21
-1 5/12
```